

What is claimed is:

1. A method for evaluating the reproducibility of a toning sample by CCM, which comprises, under the conditions that there are 2 or more samples produced in a CCM toning or visual toning process by which colors are adapted to the target color and respective components such as a coloring agent defining the sample color are registered in a CCM system, evaluating the reproducibility of the samples based on the difference $\Delta R-n$ (n denotes a sample number) between spectral reflectance $RST-n$ obtained by actually measuring the respective samples and spectral reflectance $RPR-n$ obtained by the CCM simulation corresponding to the coloring agent recipe for the sample at the same n .

2. A method for evaluating the reproducibility of a toning sample by CCM, which comprises, under the conditions that there are 2 or more samples produced in a CCM toning or visual toning process by which colors are adapted to the target color and respective components such as a coloring agent defining the sample color are registered in a CCM system, evaluating the reproducibility of the samples based on the difference $\Delta T-n$ (n denotes a sample number) between spectral transmittance $TST-n$ obtained by actually measuring the respective samples and spectral transmittance $TPR-n$ obtained by the CCM simulation corresponding to coloring agent recipe for the sample at the

same n.

3. The method for evaluating the reproducibility of a toning sample by CCM according to claim 1, wherein evaluation of the reproducibility of the samples is performed from the difference between either of n for $\Delta R-n$, or an average for $\Delta R-n$ and the $\Delta R-n$.

4. The method for evaluating the reproducibility of a toning sample by CCM according to claim 2, wherein evaluation of the reproducibility of the samples is performed from the difference between either of n for $\Delta T-n$, or an average for $\Delta T-n$ and the $\Delta T-n$.

5. The method for evaluating the reproducibility of a toning sample by CCM according to any one of claims 1-4, wherein evaluation is performed based on the difference of color specification value such as $\Delta L^*a^*b^*$ corresponding to the difference of spectral reflectance $\Delta R-n$ or the difference of spectral transmittance $\Delta T-n$, statistical values such as maximum, minimum and standard deviation of the difference of color specification value and the color difference as well as the color difference calculated from the statistical value.

6. A method for evaluating the reproducibility of a toning sample by CCM, which comprises incorporating the method for evaluating the reproducibility of a toning sample as defined in claim 5 into a CCM software and calculating the coloring agent recipe by CCM system and, thereby, the reproducibility

can be confirmed.

7. A method for evaluating a toning sample, which, in a method, under the conditions that there are 2 or more samples produced in a CCM toning or visual toning process by which colors are adapted to a target color and respective components such as a coloring agent defining the sample color are registered in a CCM system, evaluating the reproducibility of the samples based on the difference $\Delta R-n$ (n denotes a sample number) between spectral reflectance $RST-n$ obtained by actually measuring the respective samples and spectral reflectance $RPR-n$ obtained by the CCM simulation corresponding to the coloring agent recipes for the samples at the same n , comprises:

extracting a sample indicating the abnormal value $\Delta R-b$ (b means bad) different from others among $\Delta R-n$ of the sample groups; and

presuming components such as a coloring agent component mixed in the sample indicating the abnormal value or presuming its mixed amount via the following respective steps;

(1) a step of calculating either of n except for b among the $\Delta R-n$ or an average of $\Delta R-n$ except for b , wherein actually measured spectral reflectance of a sample indicating the abnormal value is $RST-b$ and spectral reflectance obtained by CCM simulation corresponding to the coloring agent recipe is $RPR-b$;

(2) a step of adding a calculated value obtained in the

above (1) to spectral reflectance RPR-b by CCM system to obtain corrected provisional true value RST' -b;

(3) a step of determining the difference $\Delta R'$ -b between the provisional true value RST' -b and actually measured spectral reflectance RST-b;

(4) a step of, using (actually measured spectral reflectance RST-b - ΔR -ave) value as a corrected target color, obtaining spectral reflectance RPR-m obtained by simulation from the existing CCM data for toning to the corrected target color, and obtaining the difference ΔR -m between the spectral reflectance RPR-m and the simulated spectral reflectance RPR-b by CCM system;

(5) a step of determining the difference ΔR -m so that the difference between the $\Delta R'$ -b and the difference ΔR -m becomes minimum.

8. A method for evaluating a toning sample, which, in a method, under the conditions that there are 2 or more samples produced in a CCM toning or visual toning process by which colors are adapted to the target color and respective components such as a coloring agent defining the sample color are registered in a CCM system, evaluating the reproducibility of the samples based on the difference ΔT -n (n denotes a sample number) between spectral transmittance TST-n obtained by actually measuring the respective samples and spectral transmittance TPR-n obtained by the CCM simulation corresponding to the coloring agent recipes

for the samples at the same n , comprises:

extracting a sample indicating the abnormal value $\Delta T-b$ (b means bad) different from others among $\Delta T-n$ of the sample groups; and

presuming components such as a coloring agent component mixed in the sample indicating the abnormal value or presuming a mixed amount thereof via the following respective steps;

(1) a step of calculating either of n except for b among the $\Delta T-n$ or an average of $\Delta T-n$ except for b , wherein actually measured spectral transmittance of a sample indicating the abnormal value is $TST-b$ and spectral transmittance obtained by CCM simulation corresponding to the coloring agent recipe is $TPR-b$;

(2) a step of adding a calculated value obtained in the above (1) to spectral transmittance $TPR-b$ by CCM system to obtain corrected provisional true value $TST' -b$;

(3) a step of determining the difference $\Delta T' -b$ between the provisional true value $TST' -b$ and actually measured spectral transmittance $TST-b$;

(4) a step of, using (actually measured spectral transmittance $TST-b - \Delta T-ave$) value as a corrected target color, obtaining spectral transmittance $TPR-m$ obtained by simulation from the existing CCM data for toning to the corrected target color, and obtaining the difference $\Delta T-m$ between the spectral transmittance $TPR-m$ and the simulated spectral transmittance

TPR-b by CCM system;

(5) a step of determining the difference $\Delta T-m$ so that the difference between the $\Delta T' -b$ and the difference $\Delta T-m$ becomes minimum.

9. The method for evaluating a toning sample according to claim 7 or 8, wherein the difference of color specification value or color difference obtained based on the difference $\Delta R-n$ is used in place of the above difference $\Delta R-n$, or the difference of color specification value or color difference obtained based on the difference $\Delta T-n$ is used in place of the $\Delta T-n$.